

G1

orthodromic primer and that described in SEQ ID NO.:4 as an antidromic primer. The sequences of SEQ ID NO.:3 and SEQ ID NO.:4 are those described in the above Nobuhara et al. nitride.--

Please replace the paragraph on page 14, lines 16-20 with the following:

G2

--The product from the PCR method was separated by electrophoresis in 1.5% low-melting agarose (available from FMC) to cut out the DNA composed of about 360 bp corresponding to the amino acid sequence of SEQ ID NO.:2, which is defined as Fragment 1.

REMARKS

Applicants submit herewith as Exhibit 1 a paper copy of a substitute sequence listing in response to the Examiner's Communication. Please replace the original sequence listing with the substitute sequence listing provided herewith.

The substitute sequence listing contains SEQ ID NOs: 1-4, wherein the original sequence presented at pages 20-21 of the application contains SEQ ID NOs: 1-3. SEQ ID NOs: 1, 3, and 4 of the substitute sequence listing correspond to SEQ ID NOs:1-3 respectively of the original sequence listing. SEQ ID NO:2 of the substitute sequence is automatically generated from SEQ ID NO:1 by the PatentIn program. As SEQ ID NO:2 contains as a separate sequence, the amino acid sequence shown in the original SEQ ID NO:1, no new matter is introduced by this substitute sequence listing. The amendments to the specification were simply made to indicate the appropriate SEQ ID NOs in the enclosed substitute sequence listing.

Also enclosed herewith are a computer diskette containing the substitute sequence listing (Exhibit 2) and a statement pursuant to 37 CFR §1.825(b)

stating that the computer diskette copy of the substitute sequence listing is identical to the paper copy (Exhibit 3).

Accordingly, no new matter is introduced by this amendment.

Finally, as required by 37 C.F.R. 1.121, a "marked up" version of the replacement paragraphs of the specification is attached as Exhibit 4 with additions indicated by underlining and deletions by brackets.

Respectfully submitted,
BIERMAN, MUSERLIAN AND LUCAS, L.L.P.

Date: Feb. 15, 2001

By: Charles A. Muserlian
Charles A. Muserlian
Reg. No. 19,683

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SEQUENCE LISTING

#21/GT

<110> SHIMURA, Takesada
TORIYAMA, Satsuki

<120> CARTILAGE/ BONE INDUCING MATERIALS FOR REPARATION

<130> 146.1286

<140> 09/068,253

<141> 1998-06-09

<150> PCT/JP96/03333

<151> 1996-11-14

<150> JP 7/322402

<151> 1995-11-17

<160> 4

<170> PatentIn Ver. 2.1

<210> 1
<211> 357
<212> DNA
<213> Homo sapiens

<220>

<221> CDS

<222> (1)...(357)

<223> Relevant amino acid residues in SEQ ID NO: 1 from
1 to 119 in WO 95/04819

<300>

<301> HOTTEN, Gertrud
NEIDHARDT, Helge
PAULISTA, Michael

<302> NEW GROWTH/DIFFERENTIATION FACTOR OF THE TGF-BETA
FAMILY

<310> WO 95/04819

<311> 1995-02-16

<313> 1 TO 119

<400> 1

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Pro Leu Ala Thr Arg Gln Gly Lys Arg Pro Ser Lys Asn Leu Lys Ala

1

5

10

15

01 FEB 21 1995
SEARCHED
INDEXED
SERIALIZED
FILED

cgc tgc agt cgg aag gca ctg cat gtc aac ttc aag gac atg ggc tgg 96
Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp
20 25 30

gac gac tgg atc atc gca ccc ctt gag tac gag gct ttc cac tgc gag 144
Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu
35 40 45

ggg ctg tgc gag ttc cca ttg cgc tcc cac ctg gag ccc acg aat cat 192
Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His
50 55 60

gca gtc atc cag acc ctg atg aac tcc atg gac ccc gag tcc aca cca 240
Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro
65 70 75 80

ccc acc tgc tgt gtg ccc acg cga ctg agt ccc atc agc atc ctc ttc 288
Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe
85 90 95

att gac tct gcc aac aac gtg gtg tat aag cag tat gag gac atg gtc 336
Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val
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gtg gag tcg tgt ggc tgc agg 357
Val Glu Ser Cys Gly Cys Arg
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<211> 119

<212> PRT

<213> Homo sapiens

<400> 2

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1 5 10 15

Arg Cys Ser Arg Lys Ala Leu His Val Asn Phe Lys Asp Met Gly Trp
20 25 30

Asp Asp Trp Ile Ile Ala Pro Leu Glu Tyr Glu Ala Phe His Cys Glu
35 40 45

Gly Leu Cys Glu Phe Pro Leu Arg Ser His Leu Glu Pro Thr Asn His
50 55 60

Ala Val Ile Gln Thr Leu Met Asn Ser Met Asp Pro Glu Ser Thr Pro

65

70

75

80

Pro Thr Cys Cys Val Pro Thr Arg Leu Ser Pro Ile Ser Ile Leu Phe
85 90 95

Ile Asp Ser Ala Asn Asn Val Val Tyr Lys Gln Tyr Glu Asp Met Val
100 105 110

Val Glu Ser Cys Gly Cys Arg
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<211> 27

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence:
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<220>

<221> misc_feature

<222> (1)..(27)

<223> PCR forward primer for isolating mature-type MP52

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ataatgccac tagcaactcg tcagggc

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<210> 4

<211> 26

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
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<220>

<221> misc_feature

<222> Complement((1)..(26))

<223> PCR reverse primer for isolating mature-type MP52

<400> 4

cgtcgactac ctgcagccac acgact

26



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) : SHIMURA, T. et al.

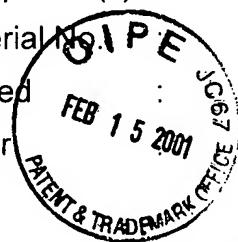
Serial No. **09/068,253**

Group Unit : 1653

Filed : June 9, 1998

Examiner : Moezie, F.

For : **CARTILAGE/ BONE INDUCING MATERIALS FOR
REPARATION**



Statement Under 37 C.F.R. §1.821(f) or §1.825(b)

Commissioner of Patents
Washington, D.C. 20231

Dear Sir:

I hereby certify that:

The paper Sequence Listing submitted herewith and computer readable Sequence Listing attached hereto are identical (37 C.F.R. §1.821(f)).

The substitute paper Sequence Listing and substitute computer readable Sequence Listing submitted herewith are identical. No new matter is included (37 C.F.R. §1.825(b)).

Respectfully submitted,

BIERMAN, MUSERLIAN AND LUCAS, L.L.P.

Date: February 15, 2001

By: Charles A. Muserlian

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22/S/K REC'D 2/22/2001
U.S. PATENT & TRADEMARK OFFICE

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Please amend the paragraph on page 14, lines 3-7 as follows:

--Substitution was carried out according to the PCR method using an orthodromic PCR primer of SEQ ID NO.:[2]3. The DNA sequence of the PCR primer utilized the DNA described in SEQ ID NO.:[2]3 as an orthodromic primer and that described in SEQ ID NO.:[3]4 as an antidromic primer, [the sequence No. 2 and No. 3] The sequences of SEQ ID NO.:3 and SEQ ID NO.:4 are those described in the above Nobuhara et al. nitride.--

Please amend the paragraph on page 14, lines 16-20 as follows:

--The product from the PCR method was separated by electrophoresis in 1.5% low-melting agarose (available from FMC) to cut out the DNA composed of about 360 bp corresponding to the amino acid sequence of SEQ ID NO.:[1]2, which is defined as Fragment 1.--